

REMARKS

In the Office Action mailed 25 September 2006, the examiner rejected independent claims 1 and 14 under §102(b) as anticipated by Kumar (US6434367). The examiner also rejected independent claims 25 and 39 under §103 as obvious over Kumar in view of Chaponniere (US6937584). In response, the applicants amend independent claim 1 and offers the following remarks. The applicants respectfully request that the examiner reconsider the rejections in light of the amendments and following remarks.

The claimed invention implements power control for a wireless transceiver. The transceiver sets a floating power gain for a traffic channel signal relative to an externally controlled power of a pilot channel signal, and adjusts that gain up or down responsive to reception quality feedback incoming from the remote transceiver. In this manner, the transceiver implements a secondary or supplemental form of outer loop power control that is driven directly by the reception quality information for the floating (traffic) channel. Notably, this floating power gain does not interfere with the power control signals associated with ongoing closed loop inner and outer loop power control being carried out for the pilot channel signals.

§102 rejections of independent claims 1 and 14 in view of Kumar

Independent claim 1 claims a method of reverse link power control implemented at a mobile station. Independent claim 14 claims a corresponding mobile station. According to the claimed method, the mobile station transmits a pilot signal at a controlled transmit power to one or more remote transceivers. When properly construed in light of the specification, this limitation requires that the mobile station transmit the pilot signal at a power level controlled by power control signals received at the mobile station. The claimed method further requires that the mobile station transmit one or more traffic channel signals at power gains related to the transmit power of the pilot signal, and adjust the power gains of the traffic channel signals

responsive to reception quality feedback. These limitations implement the floating power gain referred to above. When properly construed in light of the specification, “reception quality feedback” differs from power control signals, and instead refers to feedback provided by the base station regarding the quality of traffic channel signals received at the base station.

Examples of reception quality feedback include good/bad reception indicators (ACK/NAK), quality bit indicators, erasure bit indicators, etc.

Kumar describes a reverse-link power control system driven solely by power control signals provided by a base station to a mobile station. In other words, Kumar describes power control according to conventional cdma2000 standards. More particularly, the base station transmits power control signals using a forward-link channel decoupled from all other signals transmitted from the base station to the mobile station. The mobile station uses the received power control signals to control the power level of signals transmitted on one or more reverse-link channels to the base station.

In rejecting claims 1 and 14, the examiner asserts that Kumar teaches each of the claimed limitations. The applicants disagree. First, the applicants note that the examiner’s §102 rejection is unclear. On p. 2 of the office action, the examiner asserts that Kumar teaches “adjusting the power gain ... responsive to receiving reception quality feedback from one or more remote transceivers.” However, on p. 9 of the office action, the examiner concedes that Kumar does not explicitly teach “adjusting the power gain.” These contradictory statements render the substance of the examiner’s rejection unclear. Thus, the §102 rejection is legally insufficient and must be withdrawn.

Further, contrary to the examiner’s assertions Kumar does not teach each of the claimed limitations. Nothing in Kumar teaches or suggests transmitting any type of pilot signal from the mobile station, as required by both claims 1 and 14. At best, only the base station transmits

pilot signals, and the mobile station transmits pilot strength measurement messages (PSMMs) that report the strength of the received pilot signals to the base station.

In addition, nothing in Kumar teaches or suggests that the mobile station transmits traffic channel signals at power gains related to the transmit power of a pilot signal transmitted by the mobile station, or that the mobile station adjusts the power gains of traffic channel signals responsive to reception quality feedback, as required by both claims 1 and 14. In fact, nothing in Kumar even mentions any type of reception quality feedback. Instead, Kumar only teaches using power control signals received from a base station to control the power level of reverse-link traffic channel signals transmitted from a mobile station. For at least these reasons, Kumar does not anticipate independent claims 1 or 14, or any claims depending therefrom. The applicants respectfully request reconsideration.

§103 rejections of independent claims 25 and 39 in view of Kumar and Champonniere

Independent claim 25 claims a method of data link power control at a communication transceiver. Independent claim 39 claims a corresponding communication transceiver. According to the claimed method, the communication transceiver controls the transmit power of a first signal responsive to one or more received power control commands, and transmits a second signal at an adjustable transmit power having a power gain related to the transmit power of the first signal. The communication transceiver adjusts the power gain of the second signal responsive to a reception quality related to the second signal received from a remote transceiver. Thus, independent claims 25 and 39 also implement the floating power gain process discussed above.

The examiner asserts that the combination of Kumar with Champonniere teaches the limitations of claims 25 and 39. More particularly, the examiner asserts that Kumar teaches controlling a transmit power responsive to power control commands and “receiving reception

quality information relating to a signal.” However, as discussed above, Kumar only teaches controlling a transmit power responsive to power control commands. Nothing in Kumar even mentions “reception quality information” or receiving such information. Thus, the §103 rejection fails for at least this reason.

While the examiner concedes that Kumar does not explicitly teach adjusting the gain, the examiner asserts that Champonniere does. Champonniere teaches power control for a forward-link supplemental channel. More particularly, Champonniere teaches determining a gain for a forward fundamental channel (G_{fch}) and determining an adaptive margin (M_a) for a forward supplemental channel at a base station. The base station determines the gain for the forward supplemental channel (G_{sch}) based on G_{fch} and M_a . Subsequently, the base station may increase or decrease G_{sch} based on supplemental channel frame erasure indicators received at the base station from the mobile station.

Contrary to the examiner’s assertion, there is no motivation to combine Kumar with Champonniere. The examiner’s proffered motivation is that the combination would enable “the mobile to transmit at a minimal acceptable power level in order to maintain communications,” and that it will “cause an efficient use and possibly limited power available at the mobile and reducing the possibility of interference at the base stations with reverse-link signals transmitted from other mobile units.” With all due respect, this proffered motivation does not make sense.

In addition, Kumar and Champonniere solve a different power control problem, and thus, provide unrelated power control solutions. Kumar is concerned with decoupling power control signals transmitted from the base station to the mobile station from all other forward link signals. Champonniere is concerned with controlling the power level of supplemental channels relative to the power level of a fundamental channel. Thus, while Kumar and Champonniere both generally relate to power control, these two references are not concerned with the same power control problems, and further do not have similar solutions. Thus, there is nothing in Kumar or

Champonniere that would motivate one skilled in the art to combine them. Further, because of these differences, it is unclear how one would modify Kumar to accommodate the teachings of Champonniere. For at least these reasons, the §103 rejection fails as a matter of law.

In light of the arguments and amendments presented herein, the applicants submit that independent claims 1, 14, 25, and 39 and all claims depending therefrom are patentably distinct from Kumar and Champonniere. Thus, the applicants respectfully request reconsideration and allowance of the pending claims. Should any issues remain the applicants request that the examiner call the undersigned so that any such issues may be expeditiously resolved.

Respectfully submitted,

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